



# City Square Mall

Standards helping to reduce energy consumption

City Square Mall (CSM), Singapore's first eco-mall, opened in 2009. Developed, owned and managed by City Developments Limited, one of Singapore's leading international property and hotel conglomerates, CSM is conceived as a miniature "town centre" that provides the perfect setting for the community to meet, play and shop while acquiring an eco-learning experience.

CSM disposes over 65 000 m<sup>2</sup> of gross retail space, spread over five storeys, two basements and four levels of lifestyle services. Hosting around 200 retailers, the mall offers a wide array of merchandise and services, promotional activities, as well as street fare and international cuisine.

**Company name:** City Square Mall (CSM), Singapore

**Country:** Singapore

**Industry:** Retail – Shopping mall

**No. of employees:** Several thousand

**Revenues/profits:** –

**Main products/services:**

CSM is a public facility in downtown Singapore providing retail outlets for many types of goods and services.

**Main use of standards:**

The study focused on CSM's implementation of Singapore Standard SS 530 to reduce the energy consumption of its air-conditioning system, which accounts for 30% to 50% of the overall electricity usage.

**Most important standards used:**

- Singapore Standard SS 530:2006, *Energy efficiency for building services and equipment*



- ISO 9001:2008, *Quality management systems*
- ISO 14001:2004, *Environmental management systems*
- OHSAS 18001:2007, *Occupational health and safety management systems*
- SS 553:2009, *Air-conditioning and mechanical ventilation in buildings*
- ARI (Air-Conditioning and Refrigeration Institute) standards

**Economic benefits generated by standards:** Annual savings of SGD 320 000 in electricity costs (around USD 262 000).\*

**Key qualitative benefits:** Standards have helped set CMS up as an example for eco-efficiency, performance and cost savings for similar installations in Singapore and beyond.

## **What were the major benefits for City Square Mall of using standards?**

Using SS 530 on energy efficiency in buildings allowed City Square Mall to:

- Design and run an eco-efficient mall on significantly less energy than traditional malls
- Systematically analyse the energy consumption in its buildings and identify functions that were particularly energy-intensive, such as the air-conditioning equipment

## **How did standards lead to these benefits?**

Singapore Standards SS 530 and SS 553 were implemented during the design phase of the new mall, which was planned as an energy-efficient and eco-friendly environment attractive to all types of shoppers and families. Following the standards' principles and guidelines, high-performing air-handling control, lighting, fire safety, mechanical ventilation and elevator systems were integrated into the design, allowing for significant energy savings. An external specialized service provider was hired to monitor energy use and ensure optimal operation of the air-conditioning system. All these initiatives make City Square Mall the first eco-mall in Singapore and a ground-breaking example for similar facilities and projects.

\* SGD 1 = USD 0.81695 (2012-12-31)